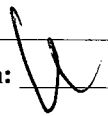


Work Order ID 127948

127948

December 18 14 7:35:45 AM

Item ID: D206-642-641 Accept *N900040100* Setup Start *NS1*
Revision ID:
Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical) Stop *NS2*
Start Date: 12/18/14 Start Qty: 1.00 *1* Cust Item ID:
Required Date: 12/26/14 Req'd Qty: 1.00 *1* Customer:
Reference:

Approvals: Process Plan:  Date: Tooling: Date: Run Start *NR1*
QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr:	Revision Nbr								
D3288	Rev I								

100 Document Control 0.00
1.00
DC Memo 0.00 DAS
Doc.Control -USB or Paperwork Photocopy bluefile and create labels per PPP D206-642-641-03
CHG005

Work Order ID 127948

December-18-14 7:35:45 AM

127948

Page 2

Item ID: D206-642-641

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop ***NS2***

Start Date: 12/18/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110									
Skidtubes									
Skidtubes									
	Memo	0.00							
	1-Deburr FWD edge of tube,grind bending marks.								
	2-Remove ridge on inside of fwd edge of tube as per Dwg D3288.								
	3-Weld Fwd Cap as per Dwg D3288,Grind to obtain proper fit A/R AL ROD Batch: <u>M3087/M30812</u>								
	4-Grind welds flush to cap on top surface onlly.								
	5-Cut Aft end as per Dwg D3288 from front of tube then deburr								
	6-Remove inner indexing ridge on aft end as per Dwg d3288								
	7-Open holes for aft cap as per Dwg D3288 using Dt8025								
	8-Drill pilot holes using DT8818								
	9- open float holes section J-J (6 per side) to 0.297" and aft cap holes to 0.208"								
	10-Insert D3286-1 doubler using DT8732 & DT8879 ,then locating doubler off the 3/16" holes cleco D3286-1 doubler remove DT8879								
	11-Working from center out,drill #30 holes into D3286-1 Doubler.cleco each hole after its drilled,Verify angle of holes to accomodate rivet heads.								
	12-Install DT8879 to hold doubler. Remove DT8732 then cleco doubler with #30 clecos. Remove DT8879 open GHW to 0.500"								

DCL 15-1-28

7BE15-1-28

DCL 15-2-2

DTG

Last page

Work Order ID 127948

127948

Page 3

December-18-14 7:35:45 AM

Item ID: D206-642-641

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop ***NS2***

Start Date: 12/18/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Rate Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	13-Remove D3286-1 doubler, identify orientation, deburr then attach to W/O								
	14-Remove indexing DT9779 edge as per Dwg D3288.								
	15-C'sink rivet holes as per Dwg D3288.								
	16- Deburr and scibe batch#.								
115	QC5- Inspect part completeness to step on W/O	0.00							DAS 9 9-89
115									
QC	Memo	0.00							
Quality Control									
120	QC9- Inspect visual per QS1004- Fusion Welds	0.00							DAS 9 9-89
120									
QC	Memo	0.00							
Quality Control									

Handwritten: DCL 13-2-2.

Handwritten: 15-02-03

Handwritten: 15-02-03

December-18-14 7:35:45 AM

Item ID: D206-642-641

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop *NS2*

Start Date: 12/18/14 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

**Sequence ID/
Work Center ID**
130

Operation	
Description	Chemical Conversion Coat per QSI005 4.1

**Set Up/
Bus Hours**
0.00

Tool ID	Tool #	Plan Code
---------	--------	-----------

Accept Qty	Reject Qty	Reject Number	Insp. Stamps
---------------	---------------	------------------	-----------------

130

HandFinish

Hand Finishing

Memo

0.00

1 d 15-2-34

140

QC7-Inspect Chemical Conversion Coat

0.00

140

QC
Quality Control

Memo

0.00

1 $\emptyset$ 15-2-4

Work Order ID 127948

December-18-14 7:35:45 AM

127948

Page 5

Item ID: D206-642-641 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
 Tri-Bag Float Comp
 Start Date: 12/18/14 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 12/26/14 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150		0.00							
150									
Skidtubes									
Skidtubes	Memo 1-Open Holes to finished size as per DWg D3288. Deburr. <i>+ c-sink holes of section H-H</i> 2-Locate, install and rivet doublers using DT8879 as per Dwg D3288. Micro-shave rivets as required. 3-Bond web in place as per Dwg D3288 & QSI 015. A/RSikaflex-291 <u>131120</u> Sikaflex expire date: <u>15-10-21</u> Start: _____ Time: <u>9:50am</u> Finish: _____ Time: _____ (Adhere for 12 hours)	0.00							
160	QC5- Inspect part completeness to step on W/O	0.00							
160									
QC									
Quality Control	Memo	0.00							

DAS
03
9-89

DGC 15-2-4

15-2-12

Work Order ID 127948

127948

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Item ID: D206-642-641

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop ***NS2***

Start Date: 12/18/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Down Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170		0.00							
170									
CNC Bend 1		0.00							
CNC Delta 100 Bender	Memo Bend tube using program D3288 as per Dwg D3288. Install drop pins in cross bolt spacer holes to maintain web position.								
180		0.00							
180									
Skidtubes		0.00							
Skidtubes	Memo 1-Drill pilot holes for wearplates using D3288-T2 as per Dwg D3288, then open to Ø0.297". (without cutting fluid) DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) 2-C'sink X-bolt holes. 3-Deburr and remove alodine as required for welding								

DD 15-2-12

DEL 15-2-18

Work Order ID 127948

127948

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Item ID: D206642-6411 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
 Tri-Bag Float Comp
 Start Date: 12/18/14 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 12/26/14 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Down Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190		0.00							
190									
Skidtubes	Memo	0.00							
Skidtubes	1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3288. Remember to back drill each hole before welding the other side. Use aluminum rod. A/RAluminum Rod <u>m13067</u>								
	2-Using DT8733, insert (2) D3286-3 spacers as per QSI 004 and Dwg D3288. Remember to back drill each hole to Ø0.402" before welding other side. Use SS rod as required A/RSS Rod <u>NONE</u>								
	3-Grind cross bolt welds flush as per Dwg D3288. Masking Tape access to inside of the skidtube								
	4-Counterbore 5/16" x 0.750" deep using DT8747, except 8th cross bolt hole from Aft end, as per Dwg D3288.								
200	QC5- Inspect part completeness to step on W/O	0.00							
200									
QC	Memo	0.00							
Quality Control									

BE 15-03-03

BE 15-03-04

15-3-4

15-03-06

DAS

Work Order ID 127948

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127948

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Item ID: D206-642-641 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
 Tri-Bag Float Comp
 Start Date: 12/18/14 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 12/26/14 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Down Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
210									
QC	Memo	0.00				①	15-03-06		DAS 9 9-89
Quality Control									
220	Pressure Wash per QSI005 4.3	0.00							
220									
HandFinish	Memo	0.00				1	15-3-6		
Hand Finishing	Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.								
230		0.00							
230									
SprayPaint	Memo	0.00				1			DAS 41 9-89
Spray Painting	1- PRIME AS PER DWG AND QSI 005 4.2 PRIMER PRC DESOTO 515X349 BATCH: <u>130992</u>								15-3-20
	2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: <u>131599</u>								

MASK ALL EXPOSED STAINLESS STEEL X-BOLT SPACERS**

Work Order ID 127948

127948

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Item ID: D206-642-641

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop ***NS2***

Start Date: 12/18/14 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC14- Inspect Spray Paint	0.00							
240									
QC	Memo	0.00							
Quality Control									
250		0.00							
250									
HandFinish	Memo	0.00							
Hand Finishing	1-Install D3415-041 Nut Plate as per Dwg D3288 ,Install with LPS PROCYON A/R LPS PROCYON Batch: <u>1122900</u> 2-Install inserts Dwg D3288. Use a drop of Sikaflex inside insert holes A/RSikaflex-291 <u>1131570</u> Sikaflex expire date: <u>12/16</u>								
260	QC5- Inspect part completeness to step on W/O	0.00							
260									
QC	Memo	0.00							
Quality Control									

DAS
15
9-89

DAS
34
9-89

Work Order ID 127948

127948

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December-18-14 7:35:45 AM

Item ID: D206-642-641 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
 Start Date: 12/18/14 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 12/26/14 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Down Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
270						1x	4	20	13/04/2
HandFinish	Memo	0.00							
Hand Finishing	1-Install wearshoes/wearpads & Gaskets as per Dwg D3288.								
	2-Install Ring on Nut Plate as per detail F & Dwg D3288.								
	3-Install D2646 Aft Cap and seal with Sikaflex. Clean excess adhesive.								
	A/RSikaflex-291 <u>M131571</u>								
	Sikaflex expire date: <u>12/10</u>								
	4-Coat all exposed fastners with LPS Procyon,remove any excess on powder coat with MEK Degreasser.								
	A/R LPS Procyon Batch: <u>M122466</u>								
280	QC5- Inspect part completeness to step on W/O	0.00							
280									
QC	Memo	0.00							
Quality Control									

DAS
38
9-89

APR 22 2015

December-18-14 7:35:45 AM

Item ID: D206-642-641

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical)
Tri-Bag Float Comp

Stop *NS2*

Start Date: 12/18/14 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 12/26/14 **Req'd Qty:** 1.00 ***1***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID
290

Operation Description

**Set Up/
Bus Hours**
0.00

Tool ID**Tool #**Plan
Code

Accept
Qty

Reject
Qtr

Reject Number

Insp.

290

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-642-641

Location: FG 73
PPP Rev:

300

QC21- Final Inspection - Work Order Release

0.00

300

QC

Memo

0.00

Quality Control

MLJ 1504-28

MLJ 15-04-28

Picklist Print

December-18-14 7:35:41 AM

Page 1

Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART (Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B05.11.15 Added washers for aft cap, wearshoes and ringEC
IPP Rev:C 06-05-31 Revised steps JLM
IPP Rev:D 07-02-22 Added SS Wearplates & Gaskets JLM IPP
Rev:E 07-12-06 ECN 1080p DD verified by:ec
IPP Rev:F 08-04-17 as per PAR 08-015 DD verified by: IPP REV:G
13.09.05 CHG004/ECN13-634 VERF:JLM IPP REV:H 14.04.28
AS PER ECN14-520 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4956-15		Manufactured	No			270	Each	27.0000	1	1			
D4956-15									**				
Stainless Steel Wearplate Fwd													

Location	Loc Qty	Loc Code
FP002	27	
122996	1	
124078	13	
126458	13	

D4956-21		Manufactured	No			270	Each	9.0000	1	1			
D4956-21									**				
Stainless Steel Wearplate Center													

Location	Loc Qty	Loc Code
FP002	9	
120328	3	
123562	6	

D4956-35		Manufactured	No			270	Each	27.0000	1	1			
D4956-35									**				
Stainless Steel Wearplate Aft													

Location	Loc Qty	Loc Code
FP002	27	
121975	2	
124080	13	
126460	12	

Picklist Print

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Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

D4956-41

Manufactured No

270 Each

4.0000

Start Qty: 1.00

Required Qty: 1.00

1 1

D4956-41

Stainless Steel Wearplate Center Aft

**

ll 15/04/2c

Location

Loc Qty

Loc Code

FP002

4

120314

4

D2620

Manufactured No

110 Each

20.0000

1

1

D2620

Skidtube, 206 Skidtube

**

Location

Loc Qty

Loc Code

LG002

20

128994
126930

20

D2647

Manufactured No

110 Each

17.0000

1

1

D2647

Cap

**

DBL 15-1-28
2 DBL 15-1-28

BE 15-1-28

Location

Loc Qty

Loc Code

LG001

17

114961

17

D3286-1

Manufactured No

110 Each

31.0000

2

2

D3286-1

Doubler

**

Location

Loc Qty

Loc Code

LG001

31

91158

31

DBL 15-2-3

2

Picklist Print

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Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

CR3212-4-04

Purchased No

150 Each

Start Qty: 1.00
775.0000 52 52

Required Qty: 1.00

CR3212-4-04

Cherry Rivet

Location	Loc Qty	Loc Code
CCK004	400	
m126534	400	
LG001	375	
m126534	375	

DGC 15-2-4

D3289-041

Manufactured No

150 Each

3.0000 1

D3289-041

Float Web (206A/B)

Location	Loc Qty	Loc Code
LG002	3	
121543	3	

DGL 15-2-4

D2649

Manufactured No

190 Each

177.0000 9

D2649

Cross Bolt Spacer

Location	Loc Qty	Loc Code
LG001	177	
120508	177	

BE 1502-19

D3275-1

Manufactured No

190 Each

135.0000 6

D3275-1

Crossbolt Spacer

Location	Loc Qty	Loc Code
LG001	135	
13851	62	
125432	40	
125849	33	

BE 1502-19

Picklist Print

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Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

D3286-3

Manufactured No

190 Each

Start Qty: 1.00
74.0000 2 2

Required Qty: 1.00

D3286-3

Spacer

**

BK-15-03-03

Location

Loc Qty

Loc Code

LG001

74

109097

37

91160

37

D3415-041

Manufactured No

250 Each

50.0000 1 1

D3415-041

Nut Plate

**

all 15/04/21

Location

Loc Qty

Loc Code

FP001

6

113764

6

ST037

44

121836

44

CCR264SS3-3

Purchased No

250 Each

92.0000 2 2

CCR264SS3-3

Cherry Rivet

**

all 15/04/21

Location

Loc Qty

Loc Code

FP001

42

m126333

42

ST321

50

113973

30

m128818

20

Picklist Print

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Work Order ID: 127948

127948

Parent.Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

CR3212-4-03

Purchased

No

250

Each

Start Qty: 1.00
833.0000 2 2

Required Qty: 1.00

CR3212-4-03

Cherry Rivet

X

**

all 12/18/14

Location

Loc Qty

Loc Code

CCK004

700

M126320

119017

700

XZ

FP001

9

m123265

9

LG001

45

m123265

45

ST320

79

m114859

79

ALS7-1032-130

AEIS8-1032-130 Purchased

No

250

Each

6,860.000 64 64

AI S7-1032-130

Rivnut

**

all 12/18/14

Location

Loc Qty

Loc Code

CCK003

6760

M128649

6760

X64

FG

100

121444

100

D3537-1

Manufactured

No

270

Each

100.0000 7 7

D3537-1

Wearpad

X?

**

all 12/18/14

Location

Loc Qty

Loc Code

FG

18

13131358

79833

8

X7

88562

10

FP001

82

125418

35

126306

47

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Shop Packet Print

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Picklist Print

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Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

D3537-3

Manufactured No

270 Each

46.0000 Start Qty: 1.00
1 1

Required Qty: 1.00

D3537-3

Wearpad

**

lll 12/18/14

Location

Loc Qty

Loc Code

FG

8

86237

8

FP001

38

120646

38

X1

AN3C4A

Purchased No

270 Each

640.0000 66 66

AN3C4A

Bolt

**

lll 12/18/14

Location

Loc Qty

Loc Code

FG

20

122814

20

M131803

X66

FP001

63

M130716

63

ST350

557

M130716

557

NAS1515H3L

Purchased No

270 Each

739.0000 2 2

***NAS1515H3L ***

Washer

**

lll 12/18/14

Location

Loc Qty

Loc Code

FG

40

102472

40

ST266

699

m127831

199

m130726

500

X2

Picklist Print

December-18-14 7:35:44 AM

Page 7

Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

NAS1149C0332R

Purchased

No

270

Each

Start Qty: 1.00
5,057.000 78 78

Required Qty: 1.00

NAS1149C0332R

WASHER

all 15/01/21

Location

Loc Qty

Loc Code

FP001

3133

m130325

3133

11131693

✓78

ST271

1924

125654

126

m130325

798

m130466

1000

D3683-1

Manufactured

No

270

Each

3,412.000

12

12

D3683-1

Insert

all 15/01/21

Location

Loc Qty

Loc Code

FP001

3412

36319

3412

✓12

D3413-1

Manufactured

No

270

Each

37.0000

1

1

D3413-1

O-Ring

all 15/01/21

Location

Loc Qty

Loc Code

FP001

2

112309

2

13127411

✓1

st530

35

110715

9

114489

4

121783

10

125157

12

Picklist Print

December-18-14 7:35:44 AM

Page 8

Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

AN4C5A

Purchased

No

270

Each

69.0000

Start Qty: 1.00

Required Qty: 1.00

AN4C5A

Bolt

**

all 12/26/14

Location

Loc Qty

Loc Code

FP001

20

M128403

20

X1

ST345

49

M130466

49

NAS1149C0463R

Purchased

No

270

Each

435.0000

1

1

NAS1149C0463R

Washer

**

all 12/26/14

Location

Loc Qty

Loc Code

FP001

101

m127306

101

X1

ST271

334

m128401

334

D2646

Manufactured

No

270

Each

21.0000

1

1

D2646

Aft Cap

**

all 12/26/14

Location

Loc Qty

Loc Code

FG

4

85848

2

90495

2

B128761

X1

FP001

17

103306

1

114495

6

119656

10

Picklist Print

December-18-14 7:35:44 AM

Page 9

Work Order ID: 127948

127948

Parent Item: D206-642-641

D206-642-641

Parent Item Name: Replacement Skidtube, High Gear, Standard Wearplates Fits LH or RH, DART
(Apical) Tri-Bag Float Comp

Start Date: 12/18/14

Required Date: 12/26/14

MS27039C1-05

Purchased

No

270

Each

Start Qty: 1.00
101.0000 12 12

Required Qty: 1.00

MS27039C1-05

del 1.310421

SCREW

Location

Loc Qty

Loc Code

ST283

101

107242

101

V17

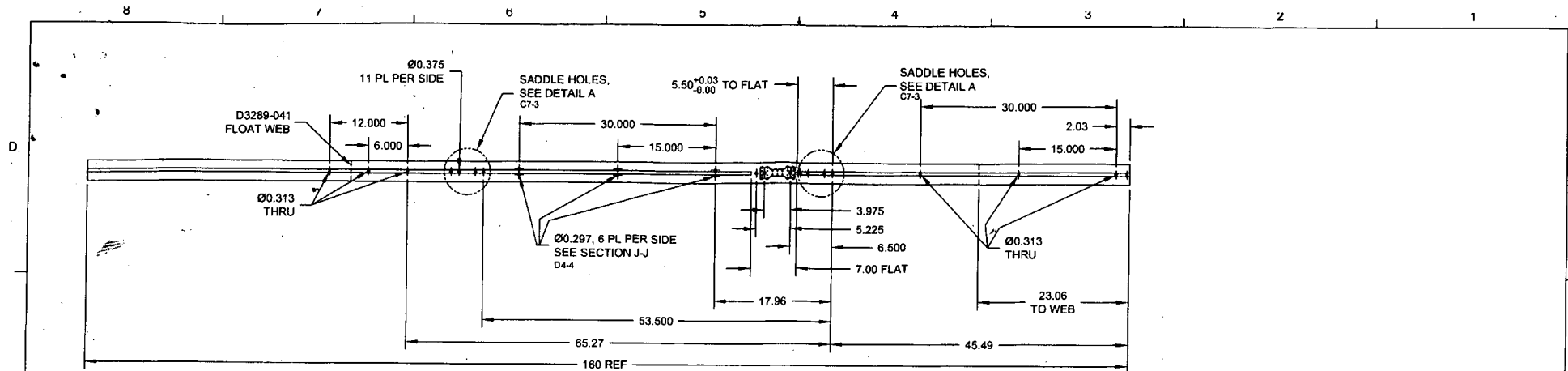
Qty -041	Part Number	Description
X	D3288-041	SKIDTUBE ASSEMBLY
1	D2800-1-240	EXTRUSION
1	D2846	AFT CAP
1	D2847	CAP
9	D2849	CROSS BOLT SPACER
8	D3275-1	CROSS BOLT SPACER
2	D3286-1	DOUBLER
2	D3286-3	SPACER
1	D3289-041	FLOAT WEB
1	D3413-1	RING
1	D3415-041	NUT PLATE
1	D4958-15	WEARSHOE
1	D4958-21	WEARSHOE
1	D4958-35	WEARSHOE
1	D4958-41	WEARSHOE
7	D3637-1	WEARPAD
1	D3637-3	WEARPAD
12	D3683-1	INSERT
64	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
68	AN3C4A	BOLT
1	AN4C5A	BOLT
1	AN860C416	WASHER
78	AN860C10L	WASHER
2	CCR284SS3-3	RIVET
2	CR3212-4-03	RIVET
52	CR3212-4-04	RIVET
12	MS27038C1-05	SCREW (or AN3C3A BOLT)
2	NAS1615H3L	WASHER

GENERAL NOTES:

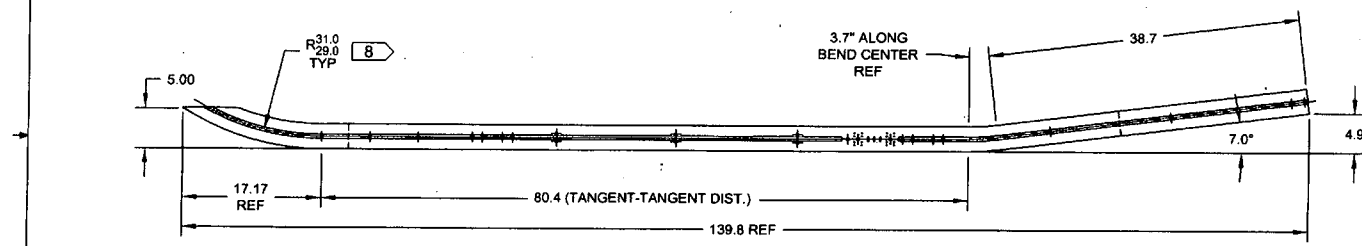
- MATERIAL: N/A
- FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- IDENTIFICATION: NONE
- WEIGHT: 20.8 LBS
- DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 5 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
- BOND D3288-041 FLOAT WEB INTO D3288-1 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
- ALL HOLES DRILLED ON CENTERLINES EXCEPT WHERE SHOWN.
- DRILL Ø0.297 HOLES FOR D3683-1 INSERTS BEFORE FINISH. INSTALL D3683-1 INSERTS AFTER FINISH.
- DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3288-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
- WELDING: PER DART QSI 004.
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN OFF EXCESS GREASE WITH WASH 'N WIPE DEGREASER

I	D4958-JX WAS D3635-JX, REMOVE GASKETS PER IIN-D208-642 REV Q	DB	14.04.15
H	REVISE NOTE 2: FINISH NOW PRIME/PAINT WAS POWDERCOAT, REF. PAR13-258	DW	13.05.21
G	REFORMAT DWG, RMV LPS-3 (ZN B8-3) RMV C'BORE & ADD SECTION K-K (ZN C2-4)	CP	09.08.17
F	SUBSTITUTE FLOAT BAG INSERT W/SPEC CTRL DWG WAS ALS7-1032-130; IS NOW D3683-1	DC	07.11.21
E	MID-FLOAT HOLES WERE MOVED 2.00" FWD AND ROTATED INBOARD AND OUTBOARD BY 17" INSERTS ARE NOW INSTALLED AT THESE LOCATIONS	MB	07.09.14
D	DIMENSIONS ADDED	DC	07.08.04
C	NEW INSERTS, SS WEARSHOES AND GASKETS	PH	06.12.19
B	CHANGE INSERTS	CP	05.03.18
A	NEW ISSUE	CP	04.05.17
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	DW	DRAWING NO.	REV. I
MFG. APPR.		D3288	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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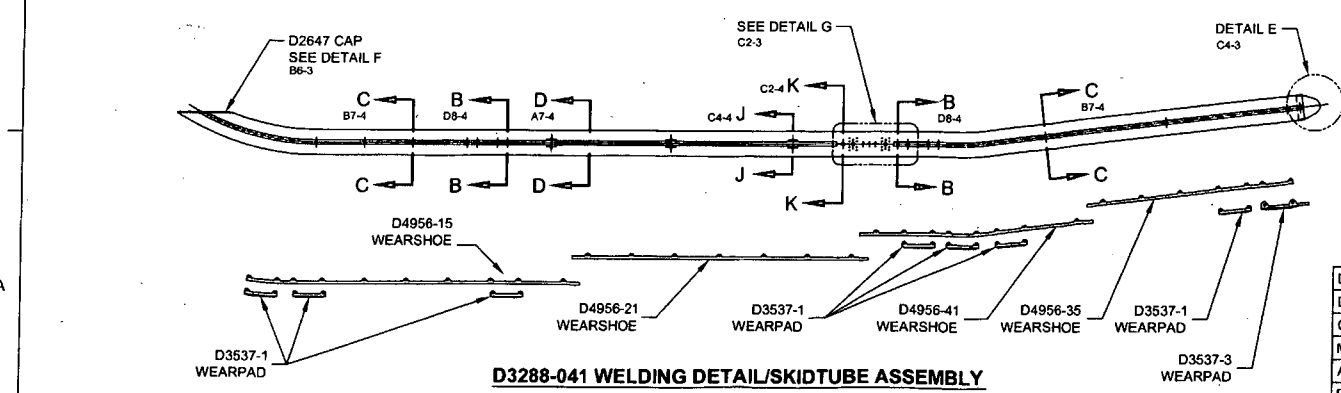
RELEASED
2014-05-26



D3288-041 DRILLING/WEB ASSEMBLY DETAIL



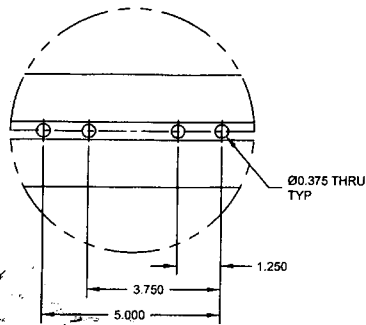
D3288-041 BENDING DETAIL



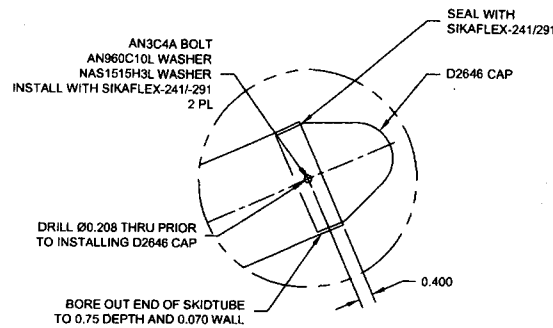
D3288-041 WELDING DETAIL/SKIDTUBE ASSEMBLY

RELEASED
2014-05-26
mp

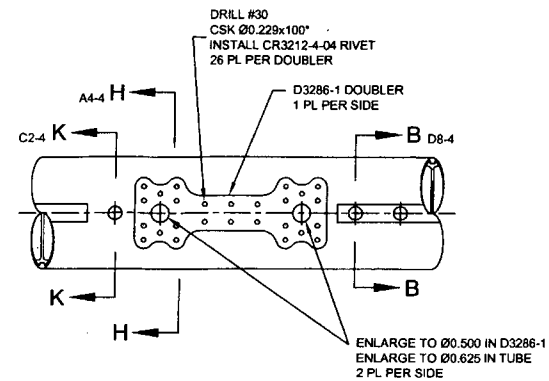
DESIGN	CP	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>DW</i>	DRAWING NO.	REV. 1
MFG. APPR.	<i>[Signature]</i>	D3288	SHEET 2 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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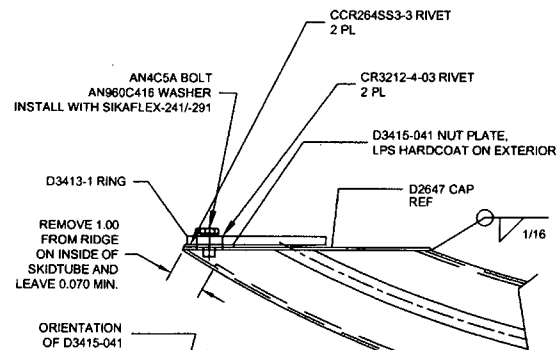
DETAIL A: DRILL DETAIL
SADDLE HOLES, SCALE 5X
D6-2, D4-2



DETAIL E
SCALE 5X
B3-2



DETAIL G
SCALE 5X
B5-2



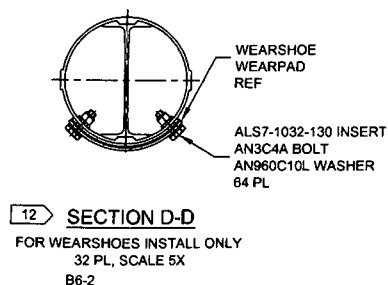
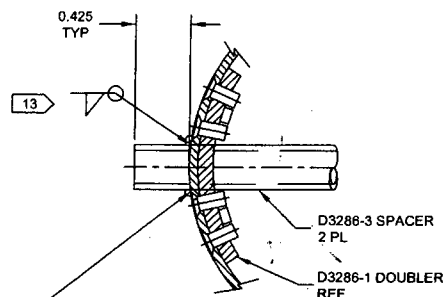
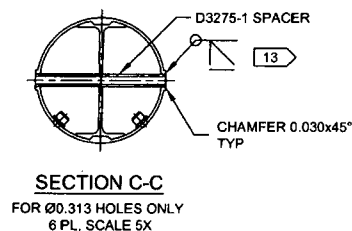
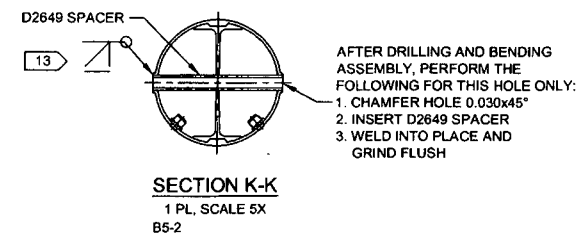
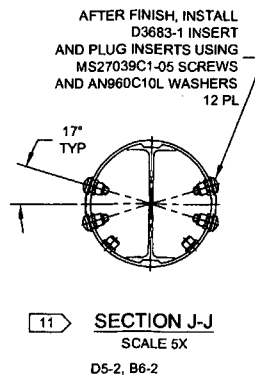
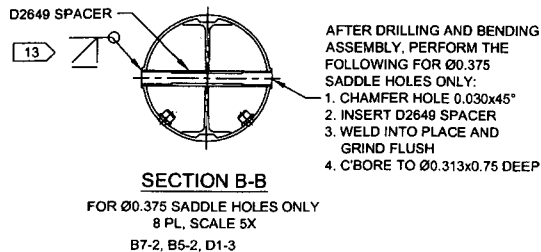
DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D2647 (TRIM AS NECESSARY)
 4. WELD D2647 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041 PRIOR TO FINISH

DETAIL F: END FINISHING DETAIL
SCALE 5X
B7-2

RELEASED
2014-05-26

DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	DW	DRAWING NO.	REV. I
MFG. APPR.		D3288	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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- TO INSTALL D3286-1/3:
1. GRIND OFF FLANGE IN AREA SHOWN, FLUSH WITH ROUND TUBE
 2. LOCATE & DRILL D3286-1 DOUBLER USING DT3286-1T1
 3. ENLARGE HOLES IN D3286-1 TO Ø0.500
 4. ENLARGE HOLES IN TUBE TO Ø0.625
 5. RIVET D3286-1 TO TUBE
 6. INSERT D3286-3 SPACER
 7. WELD IN PLACE AND GRIND FLUSH

RELEASED
2014-05-26

DESIGN	CP	DART AEROSPACE LTD	
DRAWN	DB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. 1
MFG. APPR.		D3288	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		SKIDTUBE ASSEMBLY	NTS
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DQA: _____

Date: 15/05/05

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____

Date: 15/04/05Work Order update only ☐

Work Order: <u>127948</u> Part No. <u>D2620</u> NCR No. <u>15-4846</u>	DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table border="0"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☒</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☒	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☒																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data	15/1/27	110	1	Defect / void in material, fwd/lower portion of tube.	DAS 12 9-89	SCRAP.	DGL 15-1-28		
Equip/Tooling						Two deep, stressed area of tube			
Handling/Pre					15/1/27				
Material				Re. material issue					
Operator				Revised under <u>D2620</u>		Revised under P/W #D2620 as material issue.			DAS 9 9-89
Offset/Setup									15-01-28
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☒ Other
<u>Material Issue</u>			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ✓

Date: 15/04/30Work Order update only ☐

Work Order: <u>127948</u> Part No. <u>D506-642-641</u> NCR No. <u>15-4845</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☒</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☒	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☒	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design		15/3/2	110	1	Found at sequence 190, too much material removed at ground handling region during removal of ridge.	DAS 12 9-89 15/3/2	Avg thickness at mid portion of blade tube is o.k. Acceptable.	DAS 12 9-89 15/3/2	 15-3-2	DAS 9 9-89 15-03-02
Doc/Data										
Equip/Tooling	☒									
Handling/Pre										
Material										
Operator	☒									
Offset/Setup										
Process										
Supplier										
Training										
Transport										
Unapproved										

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☒ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	--	--

DQA: _____ Date: Aut 15/08/08

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: 15/05/06Work Order update only ☐

Work Order: <u>127948</u> Part No. <u>D206-b42-b41</u> NCR No. <u>15-4886</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☒</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☒	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☒	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design		15-3-6	150	1	Distance to Web From aft end is 23.4"	UP 15/3/6	Acceptable Dwg is incorrect should be 23.36"	UP 15/3/6	 15-3-6	DAS 9 9-89 15-3-6
Doc/Data	X									
Equip/Tooling										
Handling/Pre										
Material										
Operator										
Offset/Setup										
Process										
Supplier										
Training										
Transport										
Unapproved										

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☒ Hardware ☒ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☒ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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